

1. An integrated circuit, comprising:

a processor having at least one analog function used with the processor;

a radio frequency circuit coupled to the processor;

one or more sensors adapted to sense one or more environmental parameters of

5 the at least one analog function; and

a solid state memory being configured to store the one or more environmental parameters of the at least one analog function.

2. The integrated circuit of claim 1, wherein said at least one analog function is an  
10 oscillator.

3. The integrated circuit of claim 1, wherein the one or more environmental parameters includes temperature or supply voltage.

4. The integrated circuit of claim 1, wherein the one or more sensors include one or more temperature sensors.

15 5. The integrated circuit of claim 1, wherein the one or more sensors include diodes with metallization to screen out leakage-causing light.

6. The integrated circuit of claim 1, wherein the one or more sensors include one or more hot-electron sensors.

7. The integrated circuit of claim 1, wherein the one or more sensors include deep  
20 well diodes.

8. The integrated circuit of claim 1, wherein the one or more sensors include one or more hot electron generators.

9. The integrated circuit of claim 1, wherein the one or more sensors include ring oscillator-based hot electron generators

10. The integrated circuit of claim 1, wherein the one or more sensors include one or more heaters.

5 11. The integrated circuit of claim 1, wherein the one or more sensors include polysilicon resistor heater placed over a diode and transistors.

12. The integrated circuit of claim 1, wherein the outputs of the sensors are provided to an analog switch.

10 13. The integrated circuit of claim 1, further comprising an analog to digital converter (ADC) coupled to the processor.

14. The integrated circuit of claim 13, wherein the ADC is shared with an on-chip mixed-signal circuit.

15. The integrated circuit of claim 13, further comprising a multiplexor coupled to the ADC to share the ADC with autocalibration functions.

15 16. The integrated circuit of claim 13, wherein the ADC operates at a low frequency.

17. The integrated circuit of claim 13, wherein the ADC comprises a delta-sigma ADC.

20 18. An integrated circuit, comprising:  
a processor;  
a radio frequency circuit coupled to the processor;  
an oscillator coupled to the processor and the radio frequency circuit, the oscillator having a frequency varied by one or more environmental parameters;

one or more sensors adapted to sense one or more environmental parameters; and  
a solid state memory being configured to store the one or more environmental parameters  
of the at least one analog function.

- 5    19.    The integrated circuit of claim 18, wherein the one or more environmental  
parameters includes temperature or supply voltage.
20.    The integrated circuit of claim 18, wherein the one or more sensors include one or  
more temperature sensors